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Theodoros Salonidis

58501.00046

4027

32294

7590

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SQUIRE, SANDERS & DEMPSEY L.L.P.

8000 TOWERS CRESCENT DRIVE

14TH FLOOR

VIENNA, VA 22182-6212

EXAMINER

KAO, JUTAI

ART UNIT

PAPER NUMBER

2616

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Continuation of 11. does NOT place the application in condition for allowance because:

**Regarding arguments of 103 rejections based on Kondylis**

The applicant argues that the Kondylis fails to disclose the “flow allocation” and “feasibility”. The applicant argues that the claimed "feasible flow allocation" is supposed to be a "conflict-free schedule". However, the specification does not limit the "feasible flow allocation" to be only that of a “conflict-free schedule” using the “T-periodic schedule”. The specific passage cited in the argument (specification paragraph [0062]-[0063]) is only an illustrative example used to describe the feasibility of bandwidth allocation using a specific “fluid model”. The passage does not define the rate feasibility, nor limit the definition of the rate feasibility, to be only that of the fluid model. The claim language itself also does not limit the definition of the rate feasibility to that of the fluid model. Therefore, this specific definition of "rate feasibility" should not be used to limit the scope of the claim. Furthermore, the reserved bandwidth in Kondylis' invention does provide a conflict-free scheduling of flow allocation since the "reserved" portion of the bandwidth is "conflict-free".

**Regarding arguments of 103 rejections based on Cousins**

The applicant argues about the definition of the term “flow sharing a link”. The applicant mentions the difference between a flow, which is a logical link, and a physical link. The applicant appears to be arguing that Cousins, as used in the rejection, describes a single physical link instead of a logical link. This is true as shown in the previous office action, which states that the single "physical link" includes different types

of data flows sharing this single physical link. Therefore, there are flows sharing the single physical link, which reads on the claimed limitation of "flow sharing a link" since there are a plurality of logical flows sharing this single physical link.

Regarding the term "adjustment", as shown in the previous action. The "adjustment" is made to the different initial conditions of the network and the communicating terminals. That is, instead of having the same allocation every time the connection is set up. The system in Cousins invention would adjust the allocation based on the different pre-existing condition of the network.

Lastly, the applicant argues that Cousins teaches a wired network instead of a wireless network. However, Kondylis teaches a wireless ad hoc network. Although wireless networks are more complicated than wired networks, the basic idea of bandwidth sharing is the same. Therefore, it is obvious to one of the ordinary skill in the art to apply the bandwidth allocation methods used in a wired network in a wireless network.

#### **Regarding arguments of 103 rejections based on Galand**

The applicant argues that Galand does not disclose a "mutually agreed upon optimal bandwidth allocation" because the users and nodes on the links of the path do not have a say in what the bandwidth allocation should be. However, the claim limitation does not require any user or nodes on the path to have a say on the bandwidth allocation. The claim only requires the allocation to be "mutually agreed upon", or in another word, accepted by the associated nodes. As shown in the previous

action, Galand shows in column 10 that the link metrics are determined and broadcasted to the associated nodes. The nodes then perform the communication following the metrics and thus the metrics are considered "mutually agreed upon".

The applicant further argues that Galand uses a broadcast algorithm to communicate the modified metrics to all of the nodes in the network instead of only the neighbor nodes. However, the claim limitation does not limit the information to be passed to only the neighbor nodes, nor does the claim define the neighbor nodes to be only one-hop away from the "first node" or the "second node". Furthermore, the claim does not even address which nodes are these neighbor nodes neighboring to. The claim only uses the term "neighbor nodes" and all of the nodes in the network are "neighbor nodes" to at least one other node in the network.

#### **Regarding arguments of 103 rejections based on Counterman**

The applicant first argues that Counterman does not teach bandwidth allocation utilizing QoS guarantees in a wireless ad-hoc network. However, as previously shown, Counterman teaches the use of QoS guarantees in a packet network. Wireless ad-hoc network is also a packet network. And it would have been obvious to use the idea of the QoS management of Counterman's invention in Kondylis' wireless ad-hoc "packet" network.

The applicant further argues that the current invention also teaches the Max Min Fair condition in addition to the QoS guarantee condition. However, the claim limitation

only requires at least one of the Max Min Fair condition and a QoS guarantee condition, and Counterman discloses the latter of the two.

**Regarding arguments of 103 rejections based on combinability**

The applicant again argues the combinability of the wireless ad-hoc network of Kondylis and the wired network of Cousins and other references. The applicant argues that bandwidth allocation in wireless ad-hoc networks and wired networks require the use of different mechanisms. However, the claims do not include any limitations on the use of different mechanisms. The claim simply require the idea of the negotiation of bandwidth allocation between the nodes in communication. This idea is the same for any communication network requiring bandwidth allocation. Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to use the bandwidth allocation negotiation of Cousins' invention in the ad-hoc network of Kondylis' invention and arrive at the current claimed invention.